

REPLY UNDER 37 C.F.R. § 1.116 – EXPEDITED PROCEDURE – GROUP ART UNIT 2171

Appl. No. 09/661,674
Amdt. Dated May 25, 2004
Reply to Office Action of March 30, 2004

REMARKS

This is a full and timely response to the final Office Action mailed March 30, 2004 (Paper No. 14). Reexamination and reconsideration in light of the above amendments and following remarks are courteously requested.

Claims 1-9 are pending in this application, with Claims 1 and 2 being the independent claims. Claims 1 and 2 have been amended herein. Support for the amendment is found at least on page 4, lines 1-15 of the originally-filed application. Thus, no new matter has been added.

Rejections under 35 U.S.C. § 102

Claims 1-3, 8, and 9 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,453,235 (Endo et al.), and Claims 1, 2, and 4 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,212,132 (Yamane et al.). These rejections are respectfully traversed, at least in light of the above amendments.

Independent Claim 1 relates to a method for displaying navigational data associated with an aircraft on a display having a display coordinate system that includes providing one or more databases, each database including navigational data stored as geospatially organized data structures, and retrieving data from one or more of said databases, and recites, *inter alia*, dynamically tiling the retrieved data onto one or more other data structures that represent display elements projected into the display coordinate system; culling the dynamically tiled data to a current display range, to thereby generate display data structures; and updating, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates.

Independent Claim 2 relates to a display system that includes a display computer coupled to a display having a display coordinate system and to at least one database including navigational data stored as geospatially organized data structures that include data representative of latitude and longitude coordinates, and recites, *inter alia*, that the display computer is configured to: dynamically tile data retrieved from the at least one database onto one or more

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other data structures that represent display elements projected into the display coordinate system; cull the dynamically tiled data to a current display range, to thereby generate display data structures; and update, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates.

Endo et al. relates to a navigational aid that is used to guide a motor vehicle to a destination by displaying a guide picture on a display. The system includes a navigation controller (1), a remote controller (2), and a display (3). The navigation system includes a CD-ROM drive (5) to read data from a CD-ROM (4) that has map data stored thereon, and a GPS receiver (6) to receive signals used to determine the vehicle's present location and bearing. The navigation controller (1), among other things, retrieves map data from the CD-ROM (4) based on the present position of the vehicle. A map buffer (12) stores the map data read from the CD-ROM (4), and a map drawing section (13) generates a map image using the stored data. The generated map image is then stored in VRAM (14).

Applicants submit, however, that Endo et al. fails to disclose, or even remotely suggest, that the generated map image stored in the VRAM (or any other component for that matter) is generated by dynamically tiling the retrieved data onto one or more other data structures that represent display elements projected into the display coordinate system; culling the dynamically tiled data to a current display range, to thereby generate display data structures; and updating, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates, as recited in independent Claims 1 and 2.

Yamane et al. relates to a three-dimensional radar system that includes a radar transceiver (14), a display unit (15), a three-dimensional polygon-generating unit (16), and a three-dimensional graphics unit (18). Among other things, Yamane et al. discloses a map database (28) connected to the three-dimensional polygon-generating unit (16). The polygon-generating unit (16) includes a polygon processing section (3) that performs polygon-generating processing

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for respective picture element data of a two-dimensional radar image, and a polygon buffer (34) for holding polygon data processed by the polygon processing section (30).

However, similar to Endo et al., Yamane et al., also fails to disclose or suggest, at least the above-noted features of independent Claims 1 and 2. Namely, Yamane et al. fails to disclose or suggest at least dynamically tiling the retrieved data onto one or more other data structures that represent display elements projected into the display coordinate system; culling the dynamically tiled data to a current display range, to thereby generate display data structures; and updating, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates.

Hence, it is submitted that both Endo et al. and Yamane et al. fail to disclose, or even remotely suggest, at least the above-noted feature recited in independent Claims 1 and 2. Therefore, reconsideration and withdrawal of the § 102(e) rejections is respectfully solicited.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 8, and 9 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Endo et al., Claims 1, 2, and 4 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Yamane et al., Claims 1, and 3-5 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over U.S. Patent Nos. 5,920,276 (Frederick) and 6,199,008 (Aratow et al.), and Claims 2, and 6-9 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Frederick, and U.S. Patent No. 5,978,715 (Briffe et al.). These rejections are respectfully traversed.

First, as was noted above with respect to the § 102(e) rejections, both Endo et al. and Yamane et al. fail to disclose or suggest at least one of the features of independent Claims 1 and 2. Hence, for at least this same reason, independent Claims 1 and 2 are not rendered obvious by either of these citations.

With respect to Frederick, this citation relates to a weather radar and terrain map display for aircraft, and discloses transmitting and receiving radar signals, digitizing reflected radar

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signals, and a computer for calculating the latitude and longitude coordinates of the locations from which the signals were reflected. The system provides a plan view image showing weather conditions superimposed over terrain contours and map data. Although the system includes a special purpose processor (80) that provides latitude and longitudinal grid lines for display on a display screen, Frederick is not understood to disclose or suggest at least the above noted features of independent Claims 1 and 2. Namely, Frederick fails to disclose or suggest at least dynamically tiling the retrieved data onto one or more other data structures that represent display elements projected into the display coordinate system; culling the dynamically tiled data to a current display range, to thereby generate display data structures; and updating, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates.

Aratow et al. relates to an aviation, terrain, air traffic, and weather display system that displays data useful for pilots, and Briffe et al. relates to an improved aircraft control interface and display. However, neither of these citations is understood to make up for at least the above-noted deficiency of Frederick. Namely, neither Aratow et al. nor Briffe et al. disclose or suggest at least dynamically tiling the retrieved data onto one or more other data structures that represent display elements projected into the display coordinate system; culling the dynamically tiled data to a current display range, to thereby generate display data structures; and updating, in real-time, a projected display database that includes the generated display data structures and that substantially maintains correct projections of the dynamically tiled and culled data from latitude and longitude coordinates to Cartesian coordinates.

In view of the foregoing, reconsideration and withdrawal of the § 103 rejections is respectfully solicited.

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Conclusion

Based on the above, independent Claims 1 and 2 are patentable over the citations of record. The dependent claims 3-9 are also submitted to be patentable for the reasons given above with respect to independent Claims 1 and 2, and because each recites features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

Hence, Applicants submit that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

This Amendment was not earlier presented because Applicants earnestly believed the prior Amendment placed the subject application in condition for allowance. Accordingly, entry of this Amendment Pursuant to 37 C.F.R. § 1.116 is respectfully requested. Moreover, entry and consideration of this Amendment are proper under 37 C.F.R. § 1.116 for at least the following reasons. The Amendment overcomes all of the rejections and objections set forth in the above-noted Office Action. The present Amendment places the application in better form for appeal, which Applicants fully intend to pursue if necessary. The present Amendment does not raise new issues requiring further search or consideration. Therefore, entry and consideration of the present Amendment are proper under 37 C.F.R. § 1.116 and are hereby requested.

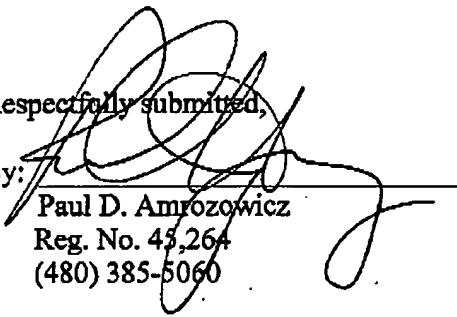
If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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If for some reason Applicants have not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Dated: 5/25/04

Respectfully submitted,
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